Title (en)

SYSTEM FOR DETECTING ELECTRIC SIGNALS

Title (de)

SYSTEM ZUR ERFASSUNG ELEKTRISCHER SIGNALE

Title (fr)

SYSTÈME DE DÉTECTION DE SIGNAUX ÉLECTRIQUE

Publication

EP 4118585 A4 20240313 (EN)

Application

EP 21788411 A 20210416

Priority

- US 202063011713 P 20200417
- US 202117230446 A 20210414
- US 2021070400 W 20210416

Abstract (en)

[origin: US2021326704A1] A method for training an artificial intelligence (AI) model for allowing a user to intuitively control an electronic device includes positioning a plurality of sensors at a plurality of particular positions on a human body for sensing electric signals. The method also includes recording a first set of electric signals from each of the plurality of sensors in a continuous manner. At the same time, a first set of motion intents associated with a first sequence of body movement is also recorded in a continuous manner. An AI regression model is trained using a neural network to map the first set of electric signals to the first set of motion intents. In response to receiving a second set of electric signals from the plurality of sensors in a continuous manner, the AI regression model predicts a motion intent, causing the electronic device to perform an action.

IPC 8 full level

G06F 3/01 (2006.01); **A61B 5/00** (2006.01); **A61B 5/11** (2006.01); **A61B 5/256** (2021.01); **A61B 5/389** (2021.01); **A61B 5/397** (2021.01); **A61F 2/72** (2006.01); **G06N 3/02** (2006.01); **G06N 3/0464** (2023.01); **G06N 3/08** (2023.01); **G06N 3/084** (2023.01); **G06N 3/09** (2023.01); **G06N 20/00** (2019.01); **G16H 50/20** (2018.01); A61F 2/70 (2006.01)

CPC (source: EP IL KR US)

A61B 5/1128 (2013.01 - IL KR); **A61B 5/256** (2021.01 - EP IL KR); **A61B 5/389** (2021.01 - EP); **A61B 5/397** (2021.01 - EP IL); **A61B 5/6802** (2013.01 - EP IL KR); **A61B 5/6824** (2013.01 - EP IL KR); **A61B 5/6842** (2013.01 - EP IL KR); **A61B 5/7267** (2013.01 - EP IL KR); **A61F 2/72** (2013.01 - EP IL KR); **G06F 3/014** (2013.01 - EP IL KR US); **G06F 3/015** (2013.01 - EP IL KR US); **G06F 3/017** (2013.01 - EP IL KR); **G06N 3/04** (2013.01 - IL US); **G06N 3/045** (2023.01 - IL); **G06N 3/0464** (2023.01 - KR); **G06N 3/048** (2023.01 - KR); **G06N 3/063** (2013.01 - IL US); **G06N 3/08** (2013.01 - IL US); **G06N 3/09** (2023.01 - EP KR); **G16H 50/20** (2018.01 - EP IL KR); A61B 5/1128 (2013.01 - EP); A61B 2562/046 (2013.01 - EP IL KR); A61F 2002/704 (2013.01 - EP); G06N 3/0464 (2023.01 - EP); G06N 3/08 (2013.01 - EP); G06N 3/084 (2013.01 - EP)

Citation (search report)

- [X] US 2018301057 A1 20181018 - HARGROVE LEVI J [US], et al
- [XI] JACOB A GEORGE ET AL: "Inexpensive surface electromyography sleeve with consistent electrode placement enables dexterous and stable prosthetic control through deep learning", ARXIV.ORG, CORNELL UNIVERSITY LIBRARY, 201 OLIN LIBRARY CORNELL UNIVERSITY ITHACA, NY 14853, 28 February 2020 (2020-02-28), XP081610843 & JACOB A GEORGE ET AL: "Intuitive Neuromyoelectric Control of a Dexterous Bionic Arm Using a Modified Kalman Filter", ARXIV.ORG, CORNELL UNIVERSITY LIBRARY, 201 OLIN LIBRARY CORNELL UNIVERSITY ITHACA, NY 14853, 28 August 2019 (2019-08-28), XP081471232 & JACOB A GEORGE ET AL: "Bilaterally Mirrored Movements Improve the Accuracy and Precision of Training Data for Supervised Learning of Neural or Myoelectric Prosthetic Control", ARXIV.ORG, CORNELL UNIVERSITY LIBRARY, 201 OLIN LIBRARY CORNELL UNIVERSITY ITHACA, NY 14853, 23 January 2020 (2020-01-23), XP081584988
- See also references of WO 2021212143A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

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DOCDB simple family (application)

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